WHAT IS CLAIMED IS:

1. A fuel cell battery structure comprising:

at least two fuel cells each comprising an anode, cathode, and an ionically-conducting medium disposed therebetween;

a connector block, disposed adjacent to one side of the at least two fuel cells, comprising means for electrically connecting the anodes and cathodes of the stacked cells into a desired electrical interconnection, and wherein said block mechanically holds the respective fuel cells in a fixed position as a result of mechanical engagement; and

wherein another side of the at least two fuel cells remains exposed to permit disengagement and removal of the fuel cells from the connector block.

2. The fuel cell battery structure of claim 1, wherein the anode and cathode of each cell comprise a terminal conductor element positioned on one side of the respective fuel cells, wherein said block is elongated along a longitudinal axis and said cells are axially engaged with said block; wherein said block comprises at least two rows of apertures extending along said axis; wherein said terminal conductor elements of said anodes and cathodes extend away from the respective cells and are adapted to be respectively inserted and engaged with said apertures, wherein the terminal conductor elements of said anodes, when said cells are aligned, are offset from the terminal conductor elements of the cathodes, wherein the terminal conductor elements of the anodes are engaged with apertures in one of said rows and the terminal conductor elements of the cathodes are engaged with apertures of the other of said rows.

3. The fuel cell battery of claim 2, wherein the terminal conductor elements of the anodes and cathodes are configured in downwardly extending U-shaped configurations and said apertures in said block are positioned in an upper surface thereof, whereby the individual fuel cells are mechanically fixed against the block with engagement of the terminal conductor elements and the apertures of said block.

4. The fuel cell battery of claim 2, wherein said block comprises two pairs of rows of apertures adapted for engagement with the anode and cathode terminal conductor elements of at least two fuel cells laterally positioned against two lateral sides of said block.

5. The fuel cell battery of claim 4 wherein the fuel cells are air depolarized and wherein a spacing for air ingress is provided between adjacent cells on each side of said block.

6. The fuel cell battery of claim 5 wherein the block and the ends of the cells, adjacent the block, define an air duct for channeling of air to said cells for the depolarization thereof.

7. The fuel cell battery of claim 6, wherein said block is supported by support means to thereby provide an open area beneath said block as part of said air duct.

8. The fuel cell battery of claim 7, wherein said support means further support air movement control means for providing and moving air within said air duct to said cells.

9. The fuel cell battery of claim 8, wherein said air movement control means comprises at least one fan attached to at least one of said block support means.

10. The fuel cell battery of claim 8, wherein said block comprises a solid rectangular configuration with lateral flange ledges wherein each of said ledges comprises one of said rows of apertures on an upper surface thereof and wherein an upper surface of the solid rectangle comprises a pair of rows, wherein the apertures in said ledges are adapted to be engaged with terminal conductor elements of one of the anode and cathode of the cells respectively adjacent thereto, and wherein the apertures in the pair of rows of the solid rectangle are adapted to be engaged with the terminal conductor elements of the other of said anode and cathode of the cells respectively adjacent thereto.

11. The fuel cell battery of claim 10, wherein the battery further comprises a support tray, with said fuel cells, engaged with said block being further supported by said tray and wherein said tray and said fuel cells comprising co-fitting key elements to help maintain said fuel cells in position relative to said block.

12. The fuel cell battery of claim 10, wherein the terminal conductor elements of the anodes and cathodes are configured in downwardly extending U-shaped configurations, whereby the individual fuel cells are mechanically fixed against the block with engagement of the terminal conductor elements and the apertures of said block.

13. The fuel cell battery of claim 10, wherein said apertures are through apertures, and said block is comprised of an electrically insulating material; wherein the means for electrically connecting the anodes and cathodes of the stacked cells into a desired electrical interconnection comprises electrically conductive receptacle elements disposed within each of said apertures for engagement with said terminal conductor elements and for selective electrical interconnection into a desired electrical arrangement of said fuel cells.

14. The fuel cell battery of claim 13, wherein said receptacle elements each comprise a conductive member which extends from the respective through apertures and which conductive members are engaged by electrically conductive bus bar members to effect said electrical interconnection.

15. A method for maintaining fuel cells in operative condition during the use thereof in a battery structure, comprising the steps of:
a) arranging said cells into the battery structure of claim 1,
b) disengagingly removing any cell requiring replacement of any of said anode, cathode and electrolyte from said block,
c) effecting replacement or addition of anode, cathode and electrolyte as required, and
d) re-engaging said cell with said block.

16. A fuel cell adapted for use in the battery structure of claim 2, comprising a flat plate structure configuration comprised of a replaceable zinc anode plate disposed between two air depolarizing cathode plates and separated therefrom by separator means, wherein the cathode plates are peripherally held in a sealed frame structure whereby a surface of each of said cathodes is externally exposed for contact with depolarizing air; said cell further comprising an anode current collector extending along an edge of said anode and terminating in a terminal

conductor element which extends externally on one side of said cell and wherein said cell comprises a cathode current collector electrically engaged with said cathode plates which terminates in a terminal conductor element which extends externally on said one side of said cell.

17. A fuel cell battery (FCB) device comprising:
a plurality of fuel cells each comprising a cathode, an anode, and an ionically-conducting medium disposed therebetween, the cathode having at least one cathode element and a cathode terminating element electrically coupled thereto, the anode having at least one anode element and an anode terminating element electrically coupled thereto; and

a connector block that supports the plurality of fuel cells and that independently and releasably engages each of the plurality of fuel cells.

18. The FCB device of claim 17, wherein the connector block further comprises a configuration means integral thereto; the configuration means, electrically coupled to the cathode terminating element and anode terminating element of the plurality of fuel cells, for configuring the plurality of fuel cells into a desired interconnection arrangement.

19. The FCB device of claim 17, wherein the anode element of a given fuel cell is removably positioned adjacent to the cathode element of the given fuel cell.

20. The FCB device of claim 17, wherein the cathode of a given fuel cell further comprises a cathode support structure, wherein the anode of the given fuel cell further comprises an anode support structure, and wherein at least one of the cathode support structure and anode support structure of the given fuel cell has post extending therefrom that is slidably inserted into an aperture in the connector block for the given fuel cell such that the connector block supports the given fuel cell.

21. The FCB device of claim 17, wherein the cathode of a given fuel cell further comprises a cathode support structure having a first post extending therefrom that is slidably inserted into a first aperture in the connector block for the given fuel cell, and wherein the anode of the given fuel cell further comprises an anode support structure having a second post extending therefrom that is slidably inserted into a second aperture in the connector block for the given fuel cell.

22. The FCB device of claim 17, wherein the connector block comprises a plurality of engagement elements, corresponding to the cathodes and anodes of the plurality of fuel cells, that releasably engage the corresponding cathode and anode and that provide electrical connection to the cathode terminating element and anode terminating element of the corresponding cathode and anode.

23. The FCB device of claim 22, wherein the connector block further comprises a configuration means integral thereto; the configuration means, electrically coupled to the cathode terminating element and anode terminating element of the plurality of fuel cells, for configuring the plurality of fuel cells into a desired interconnection arrangement.

24. The FCB device of claim 22,

wherein the cathode of a given fuel cell further comprises a cathode support structure having a first post extending therefrom, the first post comprising a first male electrical connecting element electrically coupled to the cathode terminating element of the given fuel cell,

wherein the anode of a given fuel cell further comprises an anode support structure having a second post extending therefrom, the second post comprising a second male electrical connecting element electrically coupled to the anode terminating element of the given fuel cell,

wherein the plurality of engagement elements of the connector block comprise first and second apertures corresponding to the cathodes and anodes of the plurality of fuel cells, the first aperture for a given fuel cell comprising a first female electrical connecting element and the second aperture for a given fuel cell comprising a second female electrical connecting element; and

wherein the first post of a given fuel cell is slidably inserted into the first aperture for the given fuel cell to electrically couple the first female electrical connecting element to the first male electrical connecting element of the given fuel cell (and to the cathode terminating element of the given fuel cell coupled to the first male electrical connecting element), and wherein the second post of a given fuel cell is slidably inserted into the second aperture for the given fuel cell to electrically couple the second female electrical connecting element to the second male electrical connecting element of the given fuel cell (and to the anode terminating element of the given fuel cell coupled to the second male electrical connecting element).

25. The FCB device of claim 24, wherein the configuration means comprises interconnector elements affixed to terminal ends of the first and second female electrical connecting elements of different fuel cells.

26. The FCB device of claim 24, wherein the configuration means comprises a switching network electrically coupled to the first and second female electrical connecting elements of the plurality of fuel cells, wherein the switching network operates in response to control signals from a controller, to configure the plurality of fuel cells into a desired interconnection arrangement for output to at least one pair of output terminals.

27. The FCB device of claim 24, wherein said connector block is elongated along a longitudinal axis, and each fuel cell extends from the longitudinal axis, wherein the engagement elements of the connector block comprise at least two rows of apertures extending along said axis; wherein one of said rows of apertures comprises a set of first interconnecting elements in electrical connection to the cathode terminating elements for a set of fuel cells, and another of said rows of apertures comprises a set of second interconnecting elements in electrical connection to the anode terminating elements for the set of fuel cells.

28. The FCB device of claim 27, wherein said connector block comprises two lateral side surfaces that extend along the longitudinal axis, wherein a first set of fuel cells extend from one of the side surfaces and a second set of fuel cells extend from the other one of the side surfaces.

29. The FCB device of claim 28, wherein said connector block comprises two pairs of rows of apertures, one pair of rows of apertures in electrical connection to the cathode terminating elements and anode terminating elements for the first set of fuel cells, and the other pair of rows of apertures in electrical connection to the cathode terminating elements and anode terminating elements for the first set of fuel cells

30. The FCB device of claim 17, wherein the cathode element of each fuel cell comprises an air cathode and the anode element comprises a metal-fuel, and wherein a spacing for air movement is provided between adjacent fuel cells.

31. The FCB device of claim 30, further comprising end supports, coupled to ends of the connector block, that provides an open area beneath the connector block.

32. The FCB device of claim 31, further comprising a support tray, wherein the support tray, end supports, and open area beneath the connector block define an air duct for channeling air to the fuel cells.

33. The FCB device of claim 32, wherein at least one end support comprises air movement control means for providing and moving air into the air duct and out through the spacing between adjacent fuel cells.

34. The FCB device of claim 33, wherein said air movement control means comprises at least one fan.

35. The FCB device of claim 27, wherein said connector block comprises at least two lateral stepped ledges, one of said ledges comprising one of said rows of apertures, and another of said ledges comprising the other of said rows of apertures.

36. The FCB device of claim 17, further comprises a support tray for supporting said plurality of fuel cells, wherein said tray and said fuel cells comprising co-fitting key elements to help maintain said fuel cells in a fixed position.

37. The FCB device of claim 17, wherein said connector block is formed from a solid base of electrically insulating material.

38. A fuel cell battery (FCB) device comprising:

a plurality of fuel cells each comprising a cathode, an anode, and an ionically-conducting medium disposed therebetween, the cathode having at least one cathode element and a cathode terminating element electrically coupled thereto, and the anode having at least one anode element and anode terminating element electrically coupled thereto;

a connector block having a plurality of first and second engagement elements, corresponding to cathodes and anodes, respectively, of the plurality of fuel cells, that independently and releasably engage the corresponding cathode and anode to provide electrical connection to the cathode terminating element and anode terminating element of the corresponding cathode and anode.

39. The FCB device of claim 38, wherein the cathode of a given fuel cell further comprises a cathode support structure having an electrical connecting element electrically coupled to the cathode terminating element of the given fuel cell and slidably mated with the first engagement element for the cathode of the given fuel cell.

40. The FCB device of claim 39, wherein the first engagement element in the connector block for the given fuel cell comprises an electrical connecting element electrically coupled to the electrical connecting element of the cathode support structure slidably mated thereto.

41. The FCB device of claim 38, wherein the anode of a given fuel cell further comprises an anode support structure having an electrical connecting element electrically coupled to the

anode terminating element of the given fuel cell and slidably mated with the second engagement element for the anode of the given fuel cell.

42. The FCB device of claim 41, wherein the second engagement element in the connector block for the given fuel cell comprises an electrical connecting element electrically coupled to the electrical connecting element of the anode support structure slidably mated thereto.

43. The FCB device of claim 38, wherein the connector block further comprises a configuration means integral thereto; the configuration means, electrically coupled to the cathode terminating elements and anode terminating elements of the fuel cells, for configuring the plurality of fuel cells into a desired interconnection arrangement.

44. The FCB device of claim 43, wherein the configuration means comprises interconnector elements affixed to the terminal ends of electrical connecting elements that slidably mate with interconnecting elements electrically coupled to the cathode terminating elements and anode terminating elements for the cathodes and anodes of different fuel cells.

45. The FCB device of claim 43, wherein the configuration means comprises a switching network electrically coupled to terminal ends of electrical connecting elements that slidably mate with interconnecting elements electrically coupled to the cathode terminating elements and anode terminating elements for the cathodes and anodes of the plurality of fuel cells, wherein the switching network operates under in response to control signals from a controller, to configuring the plurality of fuel cells into a desired interconnection arrangement for output to at least one pair of output terminals.

46. The FCB device of claim 38, wherein the anode element of a given fuel cell is removably positioned adjacent to the cathode element of the given fuel cell.

47. The FCB device of claim 39, wherein the electrical connecting element of the cathode support structure of a given fuel cell comprises a post extending therefrom that is slidably inserted into a first aperture in the connector block for the given fuel cell such that the connector block supports the given fuel cell.

48. The FCB device of claim 41, wherein the electrical connecting element of the anode support structure of a given fuel cell comprises a post extending therefrom that is slidably inserted into a second aperture in the connector block for the given fuel cell such that the connector block supports the given fuel cell.

49. The FCB device of claim 38, wherein said connector block is elongated along a longitudinal axis, and each fuel cell extends from the longitudinal axis, wherein said connector block comprises at least two rows of engagement elements extending along said axis; wherein one of said rows of engagement elements comprises a set of first interconnecting elements in electrical connection to the cathode terminating elements for a set of fuel cells, and another of said rows of engagement elements comprises a set of second interconnecting elements in electrical connection to the anode terminating elements for the set of fuel cells.

50. The FCB device of claim 49, wherein said connector block comprises two lateral side surfaces that extend along the longitudinal axis, wherein a first set of fuel cells extend from one of the side surfaces and a second set of fuel cells extend from the other one of the side surfaces.

51. The FCB device of claim 50, wherein said connector block comprises two pairs of rows of engagement elements, one pair of rows of engagement elements in electrical connection to the cathode terminating elements and anode terminating elements for the first set of fuel cells, and the other pair of rows of engagement elements in electrical connection to the cathode terminating elements and anode terminating elements for the first set of fuel cells.

52. The FCB device of claim 38, wherein the cathode element of each fuel cell comprises an air cathode and the anode element comprises a metal-fuel, and wherein a spacing for air movement is provided between adjacent cells.

53. The FCB device of claim 52, further comprising end supports, coupled to ends of the connector block, that provides an open area beneath the connector block.

54. The FCB device of claim 53, further comprising a support tray, wherein the support tray, end supports, and open area beneath the connector block define an air duct for channeling air to the fuel cells.

55. The FCB device of claim 54, wherein at least one end support comprises air movement control means for providing and moving air into the air duct and out through the spacing between adjacent cells.

56. The FCB device of claim 55, wherein said air movement control means comprises at least one fan.

57. The FCB device of claim 49, wherein said connector block comprises at least two lateral stepped ledges, one of said ledges comprising one of said rows of engagement elements, and another of said ledges comprising the other of said rows of engagement elements.

58. The FCB device of claim 38, further comprising a support tray for supporting said plurality of fuel cells, wherein said tray and said fuel cells comprising co-fitting key elements to help maintain said fuel cells in a fixed position.

59. The FCB device of claim 38, wherein said connector block is formed from a solid base of electrically insulating material.

60. The fuel cell battery structure of claim 1, wherein each fuel cell comprises a metal fuel anode and air cathode.

61. The fuel cell battery structure of claim 1, wherein each fuel cell comprises a hydrogen-based fuel cell.

62. The FCB device of claim 17, wherein each fuel cell comprises a metal fuel anode and air cathode.

63. The FCB device of claim 17, wherein each fuel cell comprises a hydrogen-based fuel cell.

64. The FCB device of claim 38, wherein each fuel cell comprises a metal fuel anode and air cathode.

65. The FCB device of claim 38, wherein each fuel cell comprises a hydrogen-based fuel cell.